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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/713,617  | 11/13/2003  | David F. Bednarek    | 1062/D91            | 2524             |
| 73544   | 7590        | 01/10/2008           | EXAMINER            |                  |
| Michelle Saquet Temple<br>DEKA Research & Development Corporation<br>340 Commercial Street<br>Manchester, NH 03101-1129 |             |                      | MANOHARAN, VIRGINIA |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1797                |                  |
|   |             |                      | MAIL DATE           | DELIVERY MODE    |
|   |             |                      | 01/10/2008          | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                       |  |  |
|------------------------------|---------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/713,617  | <b>Applicant(s)</b><br>BEDNAREK ET AL. |  |
|                              | <b>Examiner</b><br>Virginia Manoharan | <b>Art Unit</b><br>1797                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5,8,12,13,15,18-20,24-32,36,49,53 and 93 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,12,13,15,18-20,24-32,36,49,53 and 93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Applicants are advised to update the status of the parent applications indicated at page 1 of the specification, i.e., whether pending, allowed or abandoned, complete with the corresponding patent or serial numbers.

Claims 1-5, 8, 12-13, 15, 18-20, 24-32, 36, 49, 53 and 93 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claimed "an evaporative condenser" coupled to the input for transforming the liquid to vapor and for transforming compressed vapor into a distilled liquid product" recited in claim 1 is nowhere in the specification as originally filed. However, if support can be properly pointed- out, at least the specification fails to provide proper antecedent basis for the above claimed subject matter as it is not positively recited in the specification. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The same holds true for claims 25 and 36.

[Applicants alluded to page 9, lines 19-20 and to page 22, lines 15-17 and to the various Figures as providing support. However, page 9, for example, recites a core 600 where a liquid is partly vaporizes and a separate condenser 600. Likewise, page 22 discloses an evaporator/condenser. The slash could mean "and/or". Moreover, page 27, lines 18-23 indicates that Figures 16A and 16B) row 92 and 94 comprises

evaporator channels 95 and condenser channels 97 which would not presupposed for an evaporative condenser with both functions as claimed, supra, but rather to separate devices with same separate function(s) as in combination.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 12-13, 15, 18, 24, 36, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1211236 or Huse (3,956,072) in view of Stewart (1,668,532) and Heinio et al (5,340,443) .

Either GB '236 or Huse discloses substantially the apparatus and method including a liquid distillation system comprising an input for receiving untreated liquid; a vaporizer coupled to the input for transforming the liquid to vapor; a head chamber for collecting vapor from the vaporizer a vapor pump for compressing the vapor; and a condenser in communication with the vapor pump for transforming compressed vapor into a distilled liquid product, and method thereof, as claimed. It would have been obvious to one of ordinary skill in the art to modify the apparatus and method of GB '236 or Huse such that the vapor pump is comprised of an internal drive shaft; and an eccentric rotor with a rotatable housing as such is conventionally done in the art as taught by Stewart. See the claims of Stewart at pages 3 and 4. Moreover, it would have been obvious to modify the structure of Huse such that the separate evaporator and

condenser, supra is replaced with an evaporative condenser as such is conventionally done in the art. See e.g., col. 1, lines 10-37 of the Heinio's reference.

Claims 19, 25-26, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1211236 or Huse (3,956,072) as modified by Stewart (1,668,532) and Heinio as applied to claims 1-5, 8, 12-13, 15, 18, 24, 36, and 53 above, and further in view of Benian (5,667,683) or Cooksley (4,045,293).

The claimed multi-unit filter having at least two units in the input for filtering the liquid before the liquid is received is a known expediency as taught e.g., by Benian. Note the abstract, col. 4, lines 61-67 to col. 5 and col. 6. lines 1-29. It would have been obvious to incorporate the filtering means taught by Benian to the apparatus and method of GB'236 or Huse, to arrive at the claimed invention, so as to derive the advantages suggested at col.3, lines 3-60 of the Benian's reference; and since Benian filters function in conjunction with a distillation system as claimed. Cooksley discloses similar structural elements as above. See Figs. 1-15.

Claims 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1211236 or Huse (3,956,072) as modified by Stewart (1,668,532) and Heinio as applied to claims 1-5, 8, 12-13, 15, 18, 24, 36, and 53 above, and further in view of Sneed et al (3,603,082) or Straka (5,761,903).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to couple a clean-burning generator to the system and method of Huse or GB' 236 in the manner as taught by Sneed et al or Straka in order to obtain the advantages suggested e.g., at col. 3, lines 32-45 of Straka; and at col. 6, lines 24-33 of

the Sneed reference

Claims 20, 27-29, 31 and 93 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants' arguments filed October 31, 2007 have been fully considered but they are not persuasive.

However, Heinio, not GB '236, Huse, Stewart nor Benian, was cited to disclose an evaporative condenser as argued. In this case, applicants are arguing the references separately where the rejection is based on a combination of references. Furthermore, applicants' argument that "...Combining Stewart with GB'236 also fails to disclose at least one intake for axial feeding. Stewart describes inlet openings (8) for radial feeding, as opposed to axial feeding" is not considered well-taken. Whether the feeding is axial as claimed or radial as in the prior art is of no patentable moment. The same art-recognized functions are achieved, either way. It would have been obvious to modify the structures as a matter of design choice so as to provide axial or radial feeding. The specification does not mention the criticality of using axial feeding in applicants' invention. Moreover, the additional features of Huse, i.e., a two stage compressive distillation apparatus utilizing a rotary positive displacement compressor and a liquid ring pump, although not required by the claims, are not excluded therefrom.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lakmaker, O'Neal et al, Elmore et al and Fisher all disclose an evaporative condenser.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 571-272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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